



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

application of the magnetical influence in engineering, in tunneling, and in mining, for determining the thickness of solid masses in different situations where circumstances preclude the possibility of direct measurement. He adduces a variety of instances in which the information thus obtained would prove of the greatest value, in directing the operations in progress, or determining those to be undertaken, and frequently in preventing the occurrence of accidents which the want of such knowledge may occasion. He concludes with a statement and explanation of various practical directions for the employment of the method recommended.

A paper was read, "On a new Register Pyrometer for measuring the Expansion of Solids." Part II. By J. F. Daniell, Esq. F.R.S., Professor of Chemistry in King's College, London.

In this paper, which is a sequel to that published in the Philosophical Transactions for 1830, the author prosecutes the series of experiments he had commenced on the dilatation of the metals : pursuing the comparison between the results of the experiments of Dulong and Petit, with those given by his own instrument. He finds a striking accordance between them in the case of copper, as he had already done with respect to iron and platina. He gives the result of some trials which he made with a view to obtain registers of uniform composition, so as to preclude the necessity of determining the rate of expansion in each individual instance. The results of his experiments on the dilatation of the metals are given in tables ; the first showing in arcs of the scales the expansions of four metals from 62° to 212° , and thence to 662° of Fahrenheit ; and their respective melting points : and the second, exhibiting the expansion of certain alloys to the same points. The experiments on the melting point of cast iron give a mean of 2768° , and present a remarkable coincidence with the corrected temperature deduced from the expansion of a platina bar, plunged into melted cast iron, which was 2786° ; thus affording a conclusive proof of the accuracy of the pyrometer, and of its competency to determine fixed and comparable points of very high temperature. The author accordingly thinks himself warranted in recommending the introduction of the instrument extensively in all arts and manufactures, where it is an object to regulate high temperatures, and where it is calculated to determine many questions of the highest importance both to practical and theoretical science.

Two papers were read ; the one entitled, "On the Influence of Screens in arresting the Progress of Magnetic Action : " the other, "On the Power of Masses of Iron to control the attractive Force of a Magnet." By William Snow Harris, Esq. F.R.S.

The object of the first paper is to show that every substance susceptible of magnetism by induction, when interposed as a screen, tends to arrest the action of a magnet upon a third substance : this intercepting power being directly as the mass and inversely as the susceptibility to induced magnetism. Thus, although a single plate